CLAIMS

What is claimed is:

1.   An embedded system program code reduction method for scaling down a virtual machine and a set of application programs running on the virtual machine that are to be burned into an embedded system, wherein the virtual machine includes an object library, a complier, and a runtime environment;

the embedded system program code reduction method comprising:

a compilation procedure for compiling the source code of each application program into bytecode;

an object picking procedure for picking those essential objects that are required for use by the application programs during runtime and collectively pack all picked objects into an essential-objects package;

a compression procedure for compressing the essential-objects package into a compressed file of essential objects; and

a code integration procedure for integrating each bytecode-based application program, the compressed file of essential objects from the compression module, and the runtime environment from the virtual machine into a set of embedded system program code which is to be burned into the embedded system.

2.   The embedded system program code reduction method of claim 1, wherein the virtual machine is a Java Virtual Machine.

3.   The embedded system program code reduction method of claim 1, wherein the virtual machine is a Microsoft Virtual Machine.

4.   An embedded system program code reduction system for use to scale down a virtual machine and a set of application programs running on the virtual machine that are to be burned into an embedded system, wherein the virtual machine includes an object library, a complier, and a runtime environment;

5   the embedded system program code reduction system comprising:

a compilation module, which is used to compile the source code of each application program into bytecode;

an object picking module, which is used to pick those essential objects that are required for use by the application programs during runtime and collectively pack all

10   picked objects into an essential-objects package;

a compression module, which is used to compress the essential-objects package into a compressed file of essential objects; and

a code integration module, which is used to integrate each bytecode-based application program, the compressed file of essential objects from the compression

15   module, and the runtime environment from the virtual machine into a set of embedded system program code which is to be burned into the embedded system.

5.   The embedded system program code reduction system of claim 4, wherein the virtual machine is a Java Virtual Machine.

6.   The embedded system program code reduction system of claim 4, wherein the

20   virtual machine is a Microsoft Virtual Machine.

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